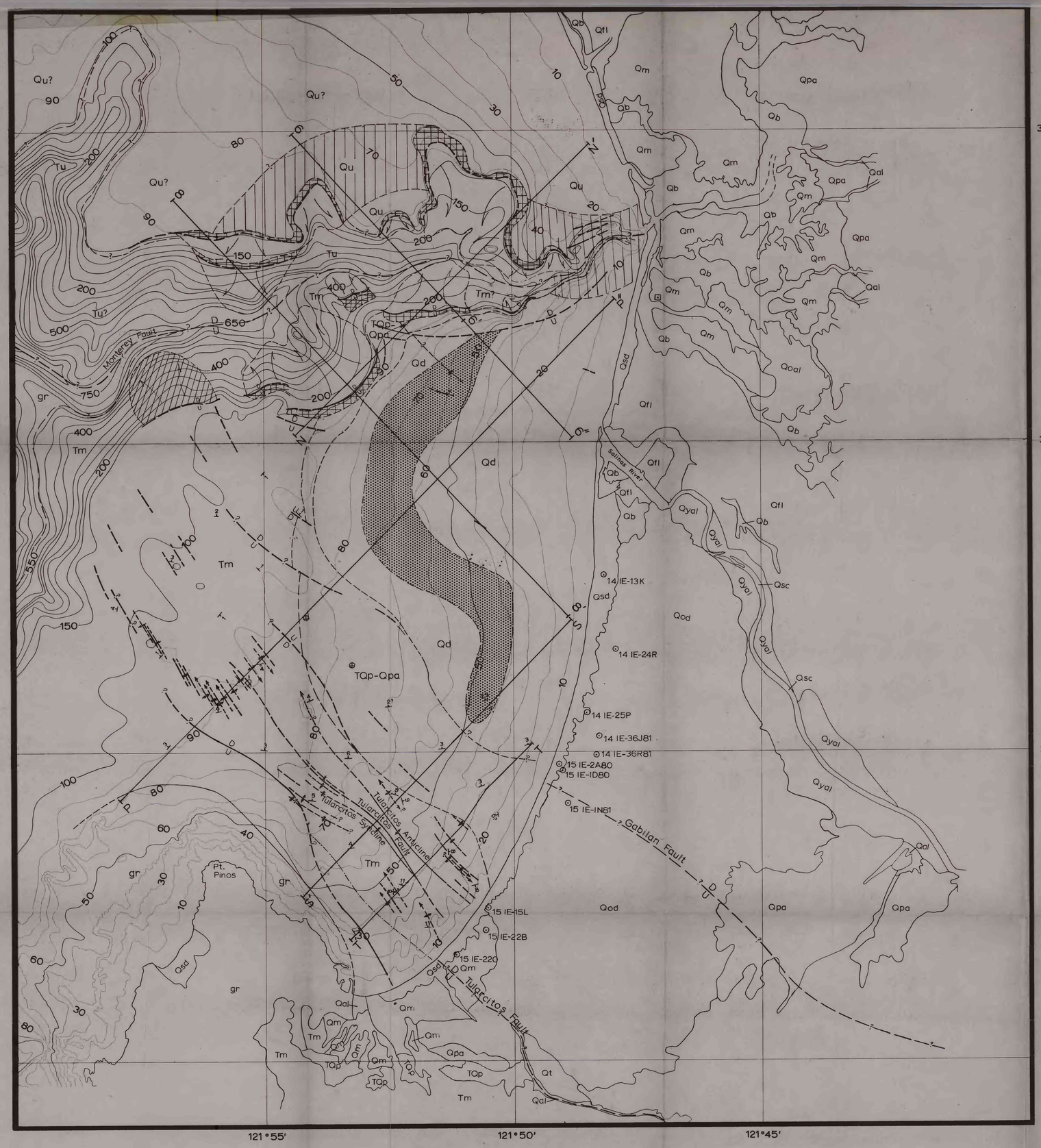
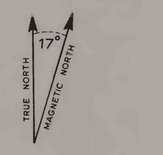


BATHYMETRIC CONTOUR INTERVAL 10 METERS

SCALE - 1:50,000

NAUTICAL MILES 1 0 1 2

KILOMETERS 1 0 1 2 3 4



DECLINATION, 1969

MARINE GEOLOGIC MAP OF SOUTHERN MONTEREY BAY

By

H. Gary Greene

Offshore geologic data obtained by seismic reflection profiling.

Prepared in cooperation with California State Department of Water Resources.

Explanation

QUATERNARY — HOLOCENE

Qsd YOUNGER SAND DUNES
Dunes of loose windblown sand along shore of Monterey Bay.

Qsc STREAM CHANNEL DEPOSITS
Unconsolidated deposits of coarse sand and gravel occurring along course of the Salinas and Pajaro Rivers.

Qd DELTAIC DEPOSITS
Unconsolidated to semiconsolidated sand, silt, and clay formed from outwash at the mouth of the Salinas River.
SEISMIC CHARACTISTICS - Absorbs seismic signal. Seismic records appear noisy with a few discontinuous reflectors.
Contains "180 foot" aquifer.

Qyal YOUNGER ALLUVIUM
Unconsolidated fine sand, silt, and clay. Formed by most recent overwash from Salinas River.

Qal INTERMEDIATE ALLUVIUM
Unconsolidated fine sand, silt, and clay. Occurs along tributaries of Pajaro and Salinas Valleys as well as along other water courses

Qb BASIN DEPOSITS
Unconsolidated deposits of silt and clay occurring along sloughs and in tidal areas.

Qfl FLOODPLAIN DEPOSITS
Formed by overwash from the Salinas and Pajaro Rivers. Consists of unconsolidated deposits of sand, silt, and clay.

Qoal OLDER ALLUVIUM
Unconsolidated to semiconsolidated deposits of silt and clay. Occupies older terrace-like areas that are 20 to 50 feet above floor of Salinas Valley.

Qod OLDER SAND DUNES
Unconsolidated to semiconsolidated deposits of wind blown sand. Upper surface composed mostly of relict sand dunes.

Qt VALLEY TERRACE DEPOSITS
Unconsolidated deposits of stratified gravel, sand, and clay. Formed by alluvial action during periods of higher sea level.

Qm MARINE TERRACE DEPOSITS
Unconsolidated deposits of poorly stratified sand and silty clay containing occasional shell beds. Certain strata may contain brackish to saline water.

Qpa AROMAS RED SANDS
Massive deposits of well sorted, friable, quartzose sand.
SEISMIC CHARACTERISTICS - Partially absorbs seismic signal. Seismic records appear slightly noisy with many discontinuous and a few continuous reflectors. Hard to distinguish from Paso Robles Fm.
Probably contains "400 foot" aquifer.

TQp PASO ROBLES FORMATION
Poorly bedded deposits of sand, gravel, clay, tuff, and calcareous material.
SEISMIC CHARACTERISTICS - Absorbs seismic signal. Seismic records appear noisy with some discontinuous reflectors. Hard to distinguish from Aromas Red Sands. Probably contains "400 foot" aquifer.

Qu QUATERNARY UNDIFFERENTIATED
Unconsolidated to semiconsolidated deposits of sand, silt, and clay.
SEISMIC CHARACTERISTICS - Absorbs seismic signal. Seismic records appear noisy with a few discontinuous reflectors.

QUATERNARY — PLEISTOCENE

TQpQpa PASO ROBLES-AROMAS UNIT
Semiconsolidated to unconsolidated sediments that consist of poorly sorted gravels and sand.
SEISMIC CHARACTERISTICS - Weakly reflected seismic signal with random noise and discontinuous reflectors.

CENOZOIC

Tu TERTIARY UNDIFFERENTIATED
Poorly indurated gravels, sands, and silts.
SEISMIC CHARACTERISTICS - Fair amount of seismic signal returned. Contains many strong continuous reflectors. Similiar in characteristics to Monterey Formation.

TERTIARY — MIOCENE

Tm MONTEREY FORMATION
Resistant siliceous mudstone interbedded with soft siliceous mudstone containing carbonate concretions.
SEISMIC CHARACTERISTICS - Considerable amount of seismic signal is returned. Contains many continuous reflectors. Similar in characteristics to the Purissima Fm. Probably non-water bearing.

CENOZOIC

MESOZOIC

gr GRANODIORITE
SEISMIC CHARACTERISTICS - Strongly returns major portion of seismic signal. Surface of granite can be traced as one continuous reflector with many multiples and hyperbolics beneath overburden-bedrock interface.
Non-water bearing.

inferred questionable
CONTACT

U D inferred questionable
FAULT
U-Upthrown D-Downthrown

UNCONFORMITY

fold inferred
ANTICLINE
Arrow shows direction of plunge

inferred
SYNCLINE

12
TRUE DIP AND STRIKE OF BEDS

12
APPARENT DIP AND STRIKE OF BEDS

HORIZONTAL BEDDING

WATER WELL

OIL WELL

SLUMP
Cross-hatched area indicates slump scarp; dashed where inferred.

INCIPIENT SLUMP AREA

BURIED CANYON

OUTCROP OF "180 FOOT" AQUIFER

Onshore geology modified after Calif. State Dept. of Water Resources (in press), 1969.